UNION CARBIDE

Nuclear Division News

Vol. 12, No. 13 • July 2, 1981

$52.8 million distributed in Savings Plan payoff

81-2701

SURROUNDED BY CHECKS — L. G. (Dixie) Rowland, senior payroll clerk in General Accounting, is one of the people who ensure that Nuclear Division employees get the correct savings plan checks, and get them on time. The checks, which arrive in bulk from the Corporate Office prior to the June 30 "payoff" date, are first counted to ensure that all (15,160, this year) are received. They are sorted by badge number, then separated into two groups — one to be mailed to employees' homes; and the other to be distributed directly to employees who have so indicated by authorization card. Address labels are attached and the checks are ready to go!

A cash distribution of approximately $52.8 million was made this week to employees at the four Union Carbide Nuclear Division facilities. The money was distributed to 15,160 participants in the Carbide Savings Plan.

The amount of money received by employees at the Oak Ridge facilities totals $47.6 million and includes $33.1 million in employee savings and $14.5 million in company contributions and earned interest. At Paducah, the total is $5.2 million, including $3.6 million in employee savings and $1.6 million in company contributions and earned interest.

Under the Union Carbide Savings Plan, an employee may authorize payroll deductions of up to 7½ percent of his or her earnings. The company contributes 10, 20 or 30 percent of this amount, depending on whether the employee has one, two or three or more years of company service.

Every two years, participants in the plan receive the money they have saved, plus the company contribution, plus interest. Nationwide this year, the payout to some 59,073 participating Union Carbide employees totals $208 million — $145.1 million in savings, $32.7 million in company contributions and $30.2 million in earned interest.

Union Carbide employees living in Oak Ridge received approximately $12.9 million, while employees in Knox County received $15.1 million. Distribution to employees in other areas included: Anderson County, $6.1 million; Roane County, $6.8 million; and Loudon County, $2.9 million. An additional $3.8 million was received by employees living in other areas of Tennessee.

Varied uses of payoff checks reflected in Nuclear Division

A new car...a boat...paying off the old home mortgage...or settling Junior's college loan — these and many more were some of the answers we received recently when we polled employees in the four plants on how they plan to spend their payoff in the General Savings Fund. The every-other-year benefit was distributed to all participating Union Carbide employees June 30.

Approximately 85 percent of all eligible employees are enrolled in the plan. Payroll deductions are made into the plan, and the Company adds up to 30 percent to savings deposited by the employee. There are several options in the program, the cash payoff being one of them. Other options include the purchase of company stock, government bonds, the fixed-income fund and the equity investment fund.

* * * * *

Donna Thompson, ORGDP Maintenance, and her husband, Carl, Separation Systems Division, will leave July 12 for a "late honeymoon/first anniversary trip to Nassau."

"Real joy" is how **Charles J. Perkins**, Technical Services at Paducah, describes his payoff. "Having educated both children and getting them happily married, Ann and I decided to save our savings plan check in 1979 and combine it with 1981 to pay for a new car. The unusual part is that for the first time in our lives we are going to pay for it...cash, no payments, no notes, just the real joy of buying a new car, paying for it on the spot and driving away to live happily ever after. The amazing part is how much cars have gone up...we may have to use both savings checks, or go see Bill Etter (Credit Union manager) again. He's such a nice fellow to do business with."

* * * * *

Lonnie McReynolds, Paducah's Maintenance Division, responded simply, "Ask my wife."

* * * * *

"Mine's just going to pay off my debts," explained **Gerald C. Johnson** of ORNL's Laboratory Protection Division. "That may not sound very exciting, but it's exciting to me to be able to pay off all those bills. In fact, that money was already spent before I got it."

K81-238

Kerry A. Maulden, Y-12 Assembly, plans a lengthy vacation with his family. They will begin with a visit to the Chattanooga Choo Choo; then on to Jekyll Island, Ga., for a day or two on the Golden Isles; on to Florida for a stopover at Cape Canaveral; then to Haiti for a visit with his mother, a missionary; and back to Florida for hiking, swimming, snorkel-diving and various other activities associated with the tropics.

Kerry A. Maulden
Y-12 Assembly

(Please turn to page 8)

Mott and Haywood

Haywood honored by DOE

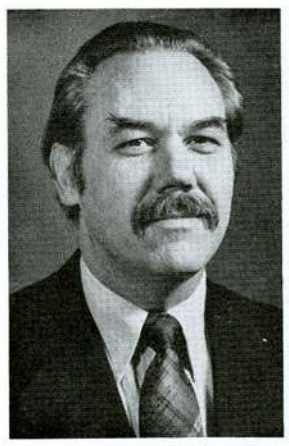
DOE has honored an ORNL health physicist for ''outstanding contributions'' to its radiation assessment and safety program. The award was made to Fred F. Haywood, leader of the Health and Safety Research Division's off-site pollutant measurements group, for his contributions as leader of a team that has carried out nationwide surveys of the radiological status of sites utilized under U.S. Government contract as part of the nation's early nuclear operations.

William E. Mott, director of the Environmental and Safety Engineering Division in the Office of the DOE Assistant Secretary for Environmental Protection, Safety and Emergency Preparedness, presented a certificate to Haywood recognizing his accomplishments.

Haywood came to the Laboratory in 1959 as a member of the former Health Physics Division after receiving his master's degree in physics from Vanderbilt University. He has been chief of the radiation research and development section in that division and a supervisor at ORNL's Health Physics Research Reactor. Haywood lives in Oak Ridge and has two children.

Receive research awards

Easton



Kroeger

Koch

Three members of ORNL's Metals and Ceramics Division have received the DOE Metallurgy and Ceramics Award for outstanding research contributions in 1980.

Dewey S. Easton, Donald M. Kroeger and Carl C. Koch were recognized for their paper, "A Prediction of the Stress State in Nb_3Sn Superconducting Composites," published in the *Journal of Applied Physics* in May, 1980. Werner Specking, visiting scientist from KFK, Karlsruhe, Germany, also contributed to the research.

Easton joined the Metals and Ceramics Division in 1950. He holds an equivalent MS degree in metallurgy, which he received through the Union Carbide Technical Advancement Program and the University of Tennessee. He and his wife, Betty, live in Lenoir City; they have two children.

Kroeger, who joined Union Carbide in 1966 in ORNL's Fusion Energy Division, has a BA in physics from Washington University and a PhD in physics from Vanderbilt University. He and his wife, Anna, have six children. The Kroegers reside in Knoxville.

Koch, a staff member since 1965, also has served as technical assistant to the ORNL associate director for physical sciences. He received his BS in metallurgical engineering and MS and PhD degrees in metallurgy from Case Western Reserve University. He and his wife, Evelyn, live in Oak Ridge. They have two children.

Licensed professional engineers

Holland

Pedigo

Charlton

Five engineers at the Paducah Plant have been licensed by the state of Kentucky as professional engineers. They are Gary R. Holland, William R. Pedigo, C. Ronald Charlton, Philip G. Elliott and Paul M. Strong.

Holland joined Union Carbide in 1979 as a mechanical engineer with previous experience in construction and nuclear engineering. He is a graduate of the University of Kentucky and a native of Western Kentucky. He is a member of the American Society of Mechanical Engineers. His present position involves engineering design of plant process additions and revisions.

Pedigo is a chemical engineering graduate of the University of Louisville. A native of Glasgow, Ky., he joined Union Carbide in 1958, having previously worked with Shell Oil. He worked for a while at ORNL. Pedigo transferred from the Operations Division in 1965 and currently designs systems dealing with piping, heat transfer and fluid flow.

Charlton joined Union Carbide in 1974 after obtaining a BS degree in electrical engineering from the University of Kentucky. He works in the Instrument Department designing computer-based process monitoring and control systems. He is a native of Murray.

Elliott

Strong

Strong, a native of Michigan, has a BS in electrical engineering from Michigan Technological University. He joined Union Carbide in 1977 and is a member of the Institute of Electrical and Electronic Engineers.

Elliott is a design engineer dealing primarily with valves and valve testing. A native of Ellsberry, Mo., he is a graduate of Washington University. Before joining Union Carbide in 1977, he was employed at Shelton Metrology.

Next issue...

The next issue will be dated July 16. The deadline is July 8.

UNION CARBIDE

Nuclear Division News

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INTERNATIONAL ASSOCIATION OF BUSINESS COMMUNICATORS

Published every other week for employees such as:

Cora Harris, a clerk in the Paducah Plant's Cascade Operations Division.

3869-81

Medicine Chest

Emotional stress and sudden death

by T. A. Lincoln, M.D.

Most people associate sudden death with heart "attacks" and heart disease. However, in some cases of sudden death, obvious causes cannot be found, even after autopsies are performed. The coronary arteries often are relatively free of the calcified fatty deposits of atherosclerosis. Considering that approximately 1,200 individuals die suddenly in the United States each day, a surprising number of these deaths appear to be unrelated to any existing disease.

The obvious question, then, is why do people who are not suffering from physical disease die? In many cases, the answer remains totally obscure, but several studies on possible causes have been published in the last several years.

Life changes

Alex Comfort, associate professor of psychiatry at UCLA, discussed "Sorcery and Sudden Death" in an article in the May issue of the *Journal of the Royal Society of Medicine*. Voodoo deaths have been recorded for centuries, but most physicians discounted the reliability of such stories. Cases of people who have "given up" on living also have been reported. In one instance, a middle-aged woman who had been admitted to the hospital because of joint pains was found to have an early-stage malignancy. She arranged for admission to a "home for dying" and died two weeks later without apparent cause.

Numerous reports have shown that significant life changes can be associated with sudden death. Events such as death of a spouse, divorce, real or symbolic danger, loss of status and imprisonment can lead to unexplained sudden death. In one study, 12.2 percent of widowers died in the year following bereavement, compared with 1.2 percent in a carefully matched control group.

In most cases of sudden death where only minimal or no heart disease was present, it is probable that the cause of death was electrical. The function of the heart is controlled by electrical stimuli that rhythmically spread across the heart muscle and cause it to contract in a coordinated pumping action. As described by Dr. Bernard Lown and his associates at the Harvard School of Public Health, various factors can cause a chaotic disorder or electrical activity, resulting in ventricular fibrillation. The heart then quivers and ceases to pump. The phenomenon is a veritable "electrical storm of tumultuous and ineffectual colliding and dispersing wavelets of depolarization."

Emotional stress

Continuous monitoring of the electrocardiograms of healthy people during periods of emotional stress has revealed that electrical disturbances in the heart are fairly common. Studies also have shown that car racing, driving in heavy traffic, public speaking or becoming violently angry may be associated in some people with the emergence of ventricular premature beats and other rhythm abnormalities.

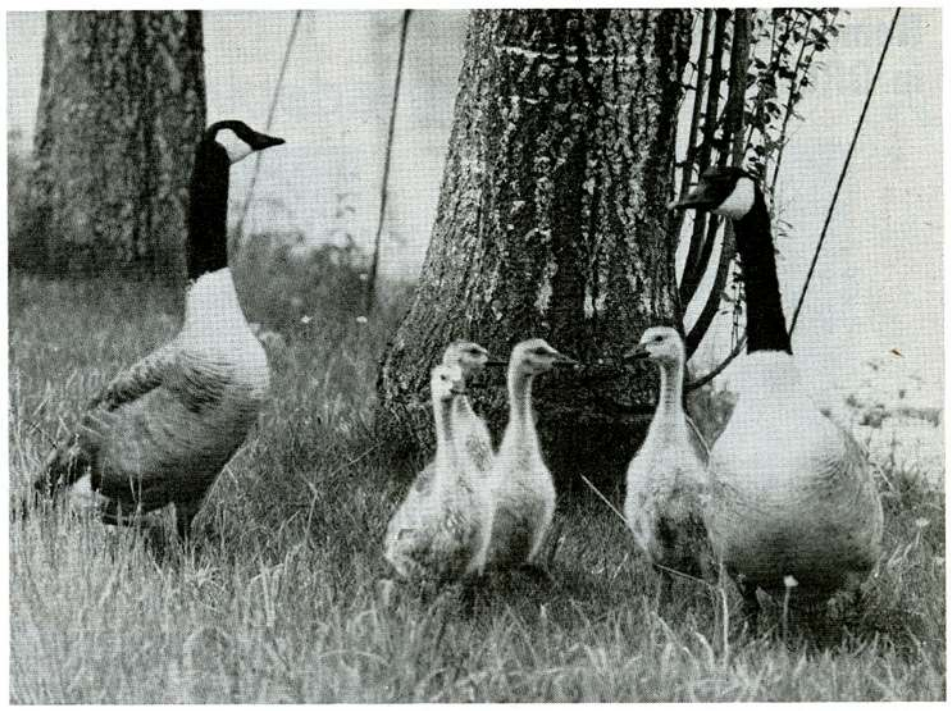
Some people who are prone to worry might find this information disturbing. The implication might be that one should avoid emotional stress. The only problem is that episodes of severe rhythm disturbances in the heart have even been associated with dreams during peaceful sleep. Besides, stress helps motivate people and make life exciting, even though too much of it can be debilitating. Few people, however, have rhythm disturbances in their hearts during stress, and there appears to be no direct correlation between the type or severity of stress and the likelihood of a heart attack.

Building stress tolerance

Those who wish to increase their tolerance to stress should exercise regularly and avoid smoking tobacco. Exercise strengthens the heart to better tolerate rhythm disturbances and speeds up metabolism of cardiotoxic adrenal hormones accumulated during daily stress. Smokers are especially vulnerable to chaotic rhythm disturbances. Numerous stress reduction techniques, such as yoga and the relaxation response, also are available.

A tenuous biochemical and electrical pathway binds the heart to the mind and the mind to the heart. When this pathway is sufficiently disturbed, a potentially fatal "electrical storm" can occur in the heart. Unfortunately, it is almost impossible to determine which particular stresses may be dangerous. A few individuals who have survived sudden death through the use of cardiopulmonary resuscitation have undergone prolonged monitoring and have learned what special situations create rhythm disturbances.

(Editor's Note: Dr. Lincoln alternates his regular column with "The Medicine Chest," where he answers questions from employees concerning health in general. Questions are handled in strict confidence, as they are handled in our Question Box. Just address your question to "Medicine Chest," **NUCLEAR DIVISION NEWS,** *Building 9704-2, Stop 21, Y-12, or call the news editor in your plant, and give him or her your question on the telephone.)*



THESE CANADA GEESE are new residents of the pond area near the Holifield Heavy Ion Research Facility at ORNL. The four goslings were hatched several weeks ago. According to ORNL observers, the geese appear to get along well with the swans, the original inhabitants of the pond. (See related story on ORGDP geese below.)

ORGDP geese get new home

As one family of Canada geese "moves in" at ORNL, several other families are moved to a new home from ORGDP.

Last Tuesday (June 23), 147 of the ORGDP geese were relocated to the Hiawassee Game Preserve by TVA and Tennessee Wildlife Resources Agency officials. Approximately 30 of the birds were left in the ORGDP area.

About 15 people were involved in netting the geese and putting them into cages which were transported by truck to the Preserve. Their jobs were made easier by the fact that this is the time of year when the geese are molting and they are unable to fly. The geese also tend to stay closer together for protection.

The ORGDP geese took up residence about four years ago. Since that time, TVA has come during this period to check the birds and put bands on them to indicate age and sex.

With this information available, the officials were able to avoid separating mates in most cases. (Canada geese are thought to mate for life.) The goslings that were born this spring are now able to fend for themselves.

If the birds do not like their new home, they may return to ORGDP. TVA will study the percentage and age of birds that do return.

Five ways to save gas, money

Looking for ways to save gas and money? One of the simplest solutions is to drive your car a little less. Here are five ideas you can use to keep your foot off the gas and more money in your pocket.

1. Call ahead to be sure you aren't wasting gas on an unnecessary trip. A wasted trip usually costs at least a dollar's worth of gas.

2. Shop, bank and pay bills by mail. A stamp is much cheaper than a gallon of gas.

3. Ride a bike or walk. You'll feel more fit, and you'll have more money to spend when you get where you're going, since you didn't waste it on gas.

4. Ride to work with a friend just one day each week. You can save at least $100 worth of gas every year.

5. Take public transportation whenever you can. You'll not only save gas, but also help reduce air pollution.

Savings Plan-Personal Investment Account

	Fixed Income Fund	UCC Stock	Equity Investment Fund
December 76	13.0553	59.2723	8.8166
December 77	14.2017	40.9096	8.0427
February 81	18.7420	55.2554	12.7318
March 81	18.8894	59.2256	12.9747
April 81	19.0386	59.2476	12.8204
May 81	19.1882	56.0036	12.9300

Note: Fixed Income Fund unit values reflect interest additions to achieve the guaranteed effective annual interest rate of 9.75% for 1981. Union Carbide stock values are the average cost of stock purchased during the month. Equity Investment Fund unit values represent the month-end market value of securities held by the Fund. The price of each unit is determined by dividing the total value of the securities by the number of units in the Fund.

Named lieutenant in ORGDP Security

Loposser

Benjamin L. Loposser was recently promoted to fire and guard lieutenant in ORGDP's Security and Plant Protection Division.

A native of Seymour, he joined the Nuclear Division in 1979 after working with the City of Oak Ridge's Fire Department. He has completed two years of study at Roane State Community College, where his major is fire science.

Loposser and his wife, Sharon, live at 196 Hillside Road, Oak Ridge, with their sons.

Patents

Marvin M. Abraham, Robert H. Kernohan and Yok Chen, all of ORNL, for "Wide-Band-Gap, Alkaline-Earth-Oxide Semiconductor and Devices Utilizing Same."

Anniversaries

ORGDP

35 YEARS

Donald K. Cagle, Computer Sciences; James P. Deaton, Maintenance; Herbert G. Duggan, Engineering; Robert C. Hammonds, Maintenance; John H. Pashley, Enrichment Technology; John K. Phipps, Engineering; Priscilla J. Teague, Engineering; Robert A. West, Engineering; Robert B. Winsbro, Operations Analysis & Planning.

30 YEARS

Helen R. Ball, General Accounting; Howard O. Crane, Technical Services; Marlin S. Dill, Technical Services; Jack Duncan, Maintenance; Waldo R. Golliher, Operations; Areties H. McKamey, General Accounting; Harry M. Sartelle Jr., Security & Plant Protection; Barton D. Simcox, Maintenance; Seth J. Wheatley, Separation Systems.

25 YEARS

Mary P. Feezell, Computer Sciences; John C. Gaddis Jr., Maintenance; Walter B. Goode Jr., Separation Systems; John T. Huffstetler, Engineering; Carrol J. Kelly, Maintenance; E. A. Woy, Employee Relations.

20 YEARS

Robert W. Henderson, Computer Sciences.

Y-12

40 YEARS

Paul S. Lewis Jr., Development Division.

35 YEARS

Burrell A. Davis, Dispatching Department; and James E. Miles, Alpha 5 West Shop.

30 YEARS

James D. Clapp, Engineering Division; King C. Burgess, Standards and Surveys; Thomas H. Jimmerson, Standards and Surveys; Jack R. Day, Development Division; Edward Owings, Nuclear Materials Accountability; Colleen Shotts, Materials Forming; Omer J. Rhea, General Machine Shop; Aurtha W. Mastin, Building Services Department; Donald C. Hunt, Research Services; Harold E. Alvey, Equipment Services; Hugh T. Christie, Electrical and Electronics; Robert H. Bacon, Process Maintenance; Claude A. Reed, Buildings, Grounds and Maintenance Shops; and Randle E. Brown, Buildings, Grounds and Maintenance Shops.

25 YEARS

Harold H. Clark and Elwood W. Tomkins.

20 YEARS

George F. Campbell.

ORNL

35 YEARS

Robert W. Holmberg, Analytical Chemistry; Robert L. Sherman, Analytical Chemistry; Horace J. Wallace, Metals and Ceramics; Francis E. Harrington, Chemical Technology; William B. Howerton, Chemical Technology; Cyrus C. Feldman, Analytical Chemistry; Walter G. Stockdale, Energy; and John E. Francis Jr., Fusion Energy.

30 YEARS

Thomas A. Butler, Health and Safety Research; Richard A. Lorenz, Chemical Technology; Leon Queener, Metals and Queener, Metals and Ceramics; Joseph H. Stewart Jr., Analytical Chemistry; John M. Chilton, Chemical Technology; Earl V. Davis, Metals and Ceramics; Glen H. Burger, Industrial Safety and Applied Health Physics; Margaret R. Wallace, Finance and Materials; and Clarence L. Guyer, Health and Safety Research.

25 YEARS

Richard M. Rush, Robert E. Meyer, James O. Stiegler, Charles E. Dunn and Joseph F. Willmering Jr.

20 YEARS

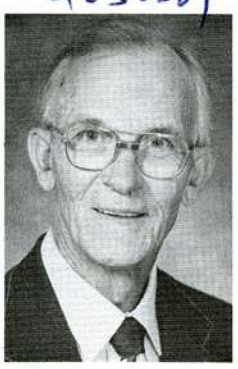
Bettye D. Brown, Alfred H. Narten, Eugene L. Smith Jr., James A. Womac, Jean E. White, Louis H. Thacker and Audrey B. Livingston.

Recent Retirements

Clifford E. Seaton
Fabrication Shop
Paducah
29 years service

John P. Raymer Jr.
Maintenance
Y-12
31 years service

Garfield Hardin
Plant and Equipment
ORNL
35 years service

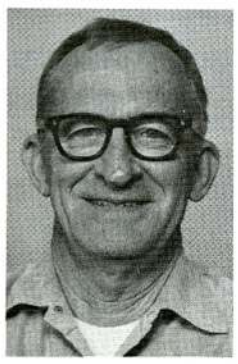


James A. Blair
Plant and Equipment
ORNL
35 years service

Paul F. Swaggerty
Plant and Equipment
ORNL
27 years service

Charles E. Ryan
Information
ORNL
30 years service

Donald K. Poland
Plant and Equipment
ORNL
30 years service



James R. Foster
Plant and Equipment
ORNL
35 years service

Robert E. Brooksbank
Chemical Technology
ORNL
29 years service

Robert H. Dyer
Engineering
ORGDP
34 years service

John R. Swithers
Cashier
Paducah
28 years service

Lewis B. Eggers Jr.
Process Maintenance
Y-12
29 years service

Bert E. Burdette
Research Services
Y-12
30 years service

William E. Green
Guard Department
Y-12
35 years service

Mr. Fletcher

Mr. Hatch

Mr. May

Mr. Robinson

Four employee deaths reported

John Fletcher, a research associate in the ORNL Solid State Division, died June 20 following an automobile accident in Knox County. His three-year-old son, Roland, also died in the accident.

Mr. Fletcher, a native of Newcastle, England, joined Union Carbide last year.

Survivors include his wife, Catherine, 6610 Hunter's Glen Drive, Knoxville; and son, Alexander.

A memorial service was conducted at St. John Neumann's Roman Catholic Church, Farragut.

Dwight E. Hatch, an engineering specialist in the Operations Analysis and Planning Division at ORGDP, died June 21 in a Milwaukee, Wis., hospital.

Mr. Hatch had worked in the Nuclear Division since March 1951.

He is survived by his wife, Virginia Leveille Hatch, of 116 Westover Drive, Oak Ridge; and a brother, Norman S. Hatch, of Warren, Ohio. Graveside services were held June 23 at St. Lawrence Cemetery, New Haven, Conn., with Rev. Howard Box of Oak Ridge officiating.

James F. May, a supervisor in Y-12's Utilities Administration, died June 15 as a result of an automobile accident. A native of Cleveland, he joined Union Carbide in 1953 after working for Chrysler and serving in the U.S. Navy.

His wife, Peggy, and sister-in-law, Ruby M. Best, also died in the accident.

The May home was on Gleason Road, Knoxville.

Other survivors include a son, Dana L. May; a daughter, Janell Tinell; a granddaughter; and two sisters, Marion E. May and Reba M. Rogers.

Funeral services for Mr. May were held at the Holley-Gamble Funeral Home with burial in Anderson Memorial Gardens.

James N. Robinson, research and development group leader in the ORNL Engineering Technology Division, died June 14 at his home at 104 Nebraska Avenue, Oak Ridge.

Mr. Robinson, a 30-year Carbide employee, was a member of St. Stephen's Episcopal Church, Oak Ridge.

Survivors include his wife, Charlotte L.; sons, John K. and William N.; daughter, Charlotte R.; mother, Sara R. Kelly; and brother, Robert E. Robinson.

Services were conducted at St. Stephen's Episcopal Church. The family requests that any memorial contributions be made to the Athletic Field Building Fund, Boys' Club of Oak Ridge, 102 South Jefferson Circle, Oak Ridge, 37830.

Upton receives 'Golden Shoe' award

Oliphant and Upton

Bruce A. Upton recently became the ORNL Plant and Equipment Division's 36th member of the Golden Shoe Club, after escaping a serious foot injury by wearing safety shoes.

Upton was cutting bushes on a ditch bank with a single-edged bush hook when his right foot slipped and fell into the path of the hook. The blade sliced through the leather covering, gouging the metal safety cap, but Upton's foot was not harmed.

The award was presented by George W. Oliphant, Plant and Equipment Division director.

At ORGDP

Ford, Inklebarger promoted

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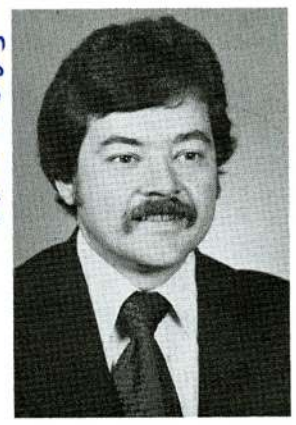


Ford

Inklebarger

C. Lee Ford Jr. and S. Amos Inklebarger have received promotions in ORGDP's Finance, Materials and Services Division. Ford will supervise functions of the traffic, receiving and shipping sections of the Materials Management Department. Inklebarger will manage the traffic management section, reporting to Ford.

Ford, a Knoxville native, served in the U.S. Army Infantry. He received his BS degree in business administration, with a transportation major, from the University of Tennessee in 1974.

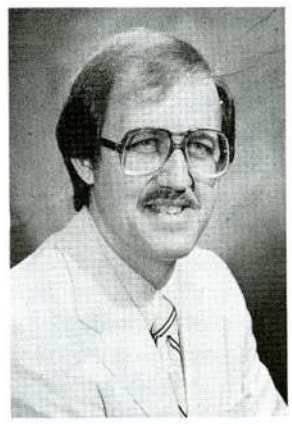
Since joining the Nuclear Division in 1974 as a materials order clerk, he has worked in several supervisory positions within the ORGDP Finance, Materials and Services Division and General Accounting Division. He is a member of the Knoxville Traffic and Transportation Club.

Ford lives at 1613 Southshire Lane, Knoxville, with his wife, Sarah, and daughters.

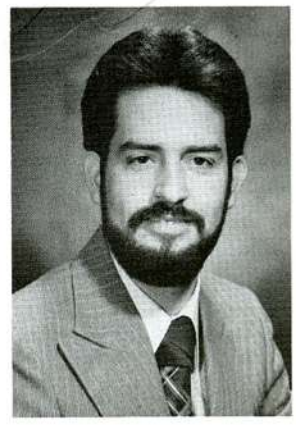
Inklebarger is also a native of Knoxville. He served in the U.S. Navy and attended Draughon's Business College. Prior to joining the ORGDP staff in 1976, he worked for 31 years with REA Express Company.

Inklebarger and his wife, Joan, have three grown children. They reside on Sonja Drive in Knoxville.

Taylor, Trammell promoted at Paducah



Taylor

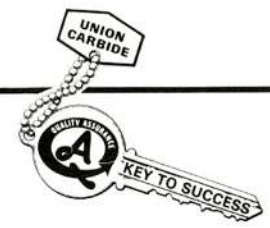


Trammell

Two promotions have been announced at the Paducah Plant. Ron Taylor has been named a supervisor in the power systems engineering and planning group, and Larry Trammell Jr. has been promoted to a programmer/analyst in the Finance and Materials Data Processing Department.

Trammell joined Union Carbide in 1977 following his graduation from Paducah Community College. A native of Washington, D.C., he interned at Westvaco Paper Company in Wickliffe. He and his wife, Laura, live in Paducah.

Taylor joined the staff at Paducah after working with the Iowa-Illinois Gas and Electric Company. He received a BS in electrical engineering from the University of Missouri-Rolla and has an MBA from Murray State University. He is a registered professional engineer and a member of the Institute of Electrical and Electronic Engineers. A native of Southern Illinois, Taylor and his wife, Joyce Ann, live in Metropolis with their daughters.



"Quality assurance — a basic ingredient in the rise of productivity." (Submitted by Blanche H. Miller, Y-12 Plant.)

Safety Scoreboard

Time worked without a lost-time accident through June 25:

Y-12 Plant	276 Days	9,688,000 Employee-Hours
ORGDP	14 Days	397,200 Employee-Hours
ORNL	410 Days	9,821,578 Employee-Hours
Paducah	331 Days	3,052,000 Employee-Hours

Retirees to stage bridge marathon

Union Carbide Retirees Association announces a special bridge marathon to begin Thursday, July 9, at the Oak Ridge Senior Center. Bridge will be played from 1 to 4 p.m. on the second and fourth Thursday each month, and will consist of eight playing days. Special prizes will be awarded to the man and woman who have the highest average score for all games played. Participants must play a minimum of five days to be eligible for awards.

Players do not have to be members of UCRA or Carbide retirees, but must be 55 years or older. No prior arrangement for tables or partners is required. These will be determined at random each day.

Questions may be directed to Charlie Kienberger, bridge committee chairman, 482-2566; or Charlie and Alice Asmanes, 482-2717; Eula Estes, 483-8921; Mary Groppe, 483-1092; Alyene Simons, 483-7232; or Marge Walker, 483-4418.

Employee Relations picnic

Nuclear Division Employee Relations staff members are gearing up for their first picnic scheduled for Friday, July 17.

Festivities will begin at 5 p.m. at Clark Center Recreation Park. The cost is $3 for teens and adults and $1.50 for children, ages 6-12. Children under 6 can eat free.

For ticket information, contact Milton Childress, ORGDP, 4-8595; Bill Maddux, Y-12 Plant, 4-1598; Jerry West, ORNL, 4-4438; or Ted Wagner, General Staff, 6-1389.

Tips for travelers

Before leaving on a vacation or other trip, you should take some simple steps to prepare your home. Remember, don't advertise the fact that you are away! Here are some suggested steps to take before you leave.

Make sure insurance policies are paid. Arrange for your mail to be picked up, forwarded or held at your post office until you return. Notify delivery services to suspend deliveries. Arrange to have your lawn mowed. Make arrangements for care of your pets. Turn off outside water faucets.

Leave a trusted neighbor a key to your home, your travel itinerary and your automobile license number for use in an emergency.

Tee-Off Time Application for

July 25, 1981

(Check Appropriate Plant)

☐ **ORGDP—Bays Mountain**
☐ **Y-12—Southwest Point**
☐ **ORNL—Dead Horse Lake**

_____
Time Preferred

Leader **1.** _____

2. _____

3. _____

4. _____

COMPLETE AND RETURN TO THE Y-12 RECREATION OFFICE
Y-12 — BUILDING 9711-5, MS-1
Entries must be received prior to drawing on July 22, 1981.

Tee-off times for all tournaments will be drawn on Wednesdays prior to each Saturday's tournament. Golfers are responsible for reserving their own carts by contacting the pro shop following drawing for tee-off times. Please call the Recreation Department, 4-1597, **THURSDAY** for tee time.

UNDEFEATED NETTERS — The Net Crushers racked up an impressive 10-0 record in the first Paducah Plant volleyball season, beating out eight other teams for the top slot. The seven-man championship team consisted of, from left Sam Leone, Larry Heavrin, team captain, Steve Skaggs, Dave Taylor, Jeff Oakley, Dick Veazey and Gary Holland.

Paducah scrabble...

Results of the last Paducah Plant mixed scrabble found team captain Gus Kosinski and team members George Parker, Walter Wilkins and John Coil with a winning 4 under par to clinch the title. Following in second place with a 2 under were Phil Brown, captain; Jeff Vandeven; Chris Vollman; and R. B. McMunn. Third-place honors went to captain Gene White and co-golfers D. R. Fuller, Bill Halicks and W. E. McMannus. Roger Dew drove his ball closest to the pin on hole number 11 to win that designated honor.

A mixed scrabble is planned for July 6 at the Calvert City Country Club. Deadline for signing up is July 1. Interested participants should contact any golf committee member or the Recreation Office. 8042 /

Family Mixed...

The Oops team and the ABC's are tied for first place in the Carbide Family Mixed Bowling League, with no losses. Mary Goldberg paced the league recently with a 577 scratch series; while Carol LeNoir rolled a 698 handicap tally! Wayne McLaughlin led men bowlers with a 253/274 single; series of 609/672. Richard Sampson's 749 handicap series still leads in the young season.

Monday Mixed...

The Champs have edged out into a slim lead in the UCC Monday Mixed League. Rick Igod's 586 was high series recently in handicap scoring; Tommy Davis' 213 was high single. On the distaff side it was Cheryl Womack with a 538 series, and a 203 single.

BACKGAMMON BEST — Mike Holloway, left, recently became the Paducah Plant's first backgammon champ by out-matching his six opponents in the newly organized backgammon competition. Randy Burdette, second from left, placed third in the match-ups and Don Shearer moved into second place following a "best 4 of 7" tie breaker with Holloway. Matches were held weekly over a six-week period and points for the number of games won determined the competition's strategic superiors.

'Best-selling' isotopes have wide variety of uses

by Meg Marxer

The ORNL "Top 10" aren't available in any record store, and you won't be hearing them on your favorite radio station.

But for the hundreds of thousands of Americans who suffer from heart, kidney and brain diseases, the 10 best-selling stable isotopes have a very special importance.

Using radioisotopes as tracer agents, physicians can detect and diagnose a wide variety of diseases.

Using radioactive forms of the isotopes (radioisotopes) as tracer agents, physicians can detect and diagnose a wide variety of diseases without having to perform exploratory surgery and other expensive and difficult procedures.

The stable isotopes, produced in the electromagnetic isotope separation machines called calutrons which are located in Building 9204-3 at Y-12, accounted for nearly $3 million worth of sales last year alone. Radioisotope sales amounted to more than $8 million.

ORNL is the world's oldest producer of stable and radioisotopes for use in medicine, industry, agriculture and research.

Radioisotope production and sales are under the direction of Eugene Lamb, section head in the Operations Division. Stable isotope separations and calutron operations are headed by Eugene Newman Jr., section head in the Chemical Technology Division.

ORNL is the world's oldest producer of stable and radioactive isotopes for use in medicine, industry, agriculture and research. It also serves as the central sales office and distribution point for most of the isotopes produced throughout the DOE system.

In naturally occurring form, most chemical elements are a mixture of stable isotopes — atoms with the same number of protons and electrons but with varying numbers of neutrons. The calutrons are used to separate the different stable isotopes.

Stable isotopes first appeared on the market in the early 1950's and were distributed almost exclusively as research materials. Now, in terms of revenue, the greatest sale of stable isotopes is for the preparation of radioisotopes for medical applications.

Over the past five years, calutron-produced thallium-203 has been at the top of the charts and, since 1979, has been ORNL's best seller. Thallium-203 is irradiated in a cyclotron and transmuted into one of its radioactive isotopes, thallium-201, which is then used for early detection of heart disease.

When injected into the body, thallium concentrates in the heart because of its chemical resemblance to potassium, an element essential for heart function. Since most thallium concentrates in living tissue, physicians, using sophisticated electronic cameras called scanners, can "map" the location of the radioisotope and thus distinguish between living and dead heart tissue.

Over the past five years, calutron-produced thallium-203 has been at the top of the charts.

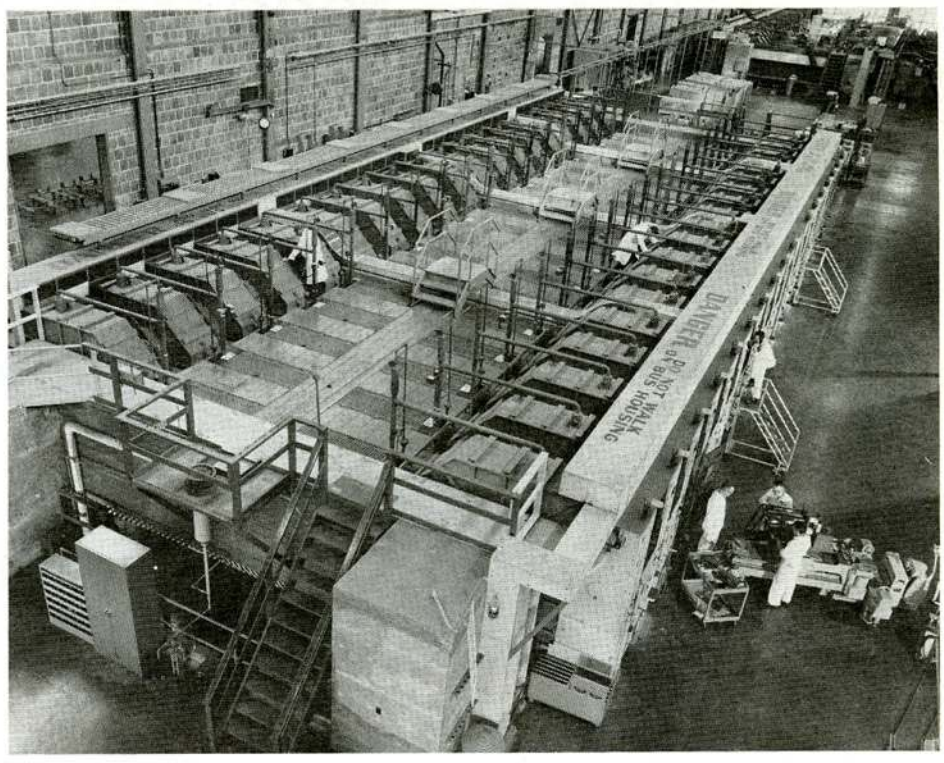
With such information, heart specialists can assess the extent of heart damage, and in some cases, estimate the likelihood of heart attack. In other cases, cardiologists use thallium scans to assess electrocardiogram tests or to evaluate drug therapy aimed at dilating arteries and increasing blood flow to diseased tissue.

In addition to thallium-203, five others are sold primarily for medical use. Zinc-68, tellurium-124, strontium-84, tin-112 and iron-58 are used in the detection and diagnosis of disorders in organs such as the brain, thyroid, kidneys and pancreas. As with thallium-203, these stable isotopes generally are sold to customers who irradiate them to form radioisotopes, which then are used in clinics and hospitals to detect disease.

With such information, heart specialists can assess the extent of heart damage.

Tests given to one out of every four patients hospitalized for medical diagnosis in the United States involve nuclear medical procedures using radioisotopes. In fact, having nuclear medical procedures available is a requirement for hospitals in this country to be accredited.

Next to medical applications, the biggest-selling stable isotopes are those used in heavy ion physics research. Calcium-48, for example, has the highest neutron-to-proton ratio of any nucleus in its region of the periodic table. This enables it to serve as an excellent heavy ion projectile for various studies of basic nuclear properties, such as those being conducted at ORNL's Holifield Heavy Ion Research Facility.



THIS CALUTRON, or electromagnetic isotope separation machine, is located in Building 9204-3 at the Y-12 Plant.

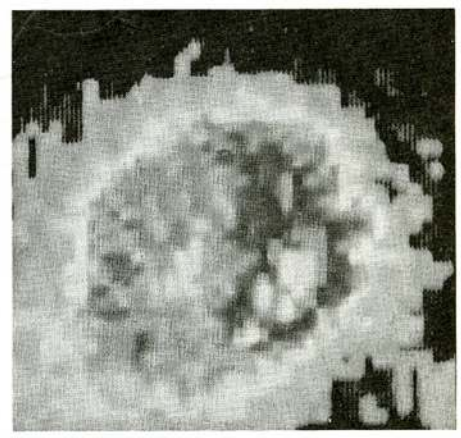
Lead-208 also has special nuclear properties that make it one of the best target-backing and "beam-stopper" materials available for use in heavy ion research.

The great majority of stable isotopes are sold to the medical and scientific communities.

Iron-57 is one of the most widely used nuclides in Mossbauer studies, a valuable analytical technique used to examine the chemical and physical states of atoms in various materials. Using Mossbauer techniques, scientists have analyzed rock specimens from the surface of the moon and materials extracted from the earth's outer layer.

The great majority of stable isotopes are sold to the medical and scientific communities, but private industry also purchases a sizable number of these isotopes. While none appear in the "Top 10," this does not lessen the importance of their applications. Isotopes such as rhubidium-87 and ytterbium-168 are used in precision standards of measurement, such as atomic clocks, and for the inspection of tank and piping system welds.

ORNL serves a diverse range of customers both here and abroad. In 1980, nearly 300 customers were supplied with more than 230 different stable isotopes.



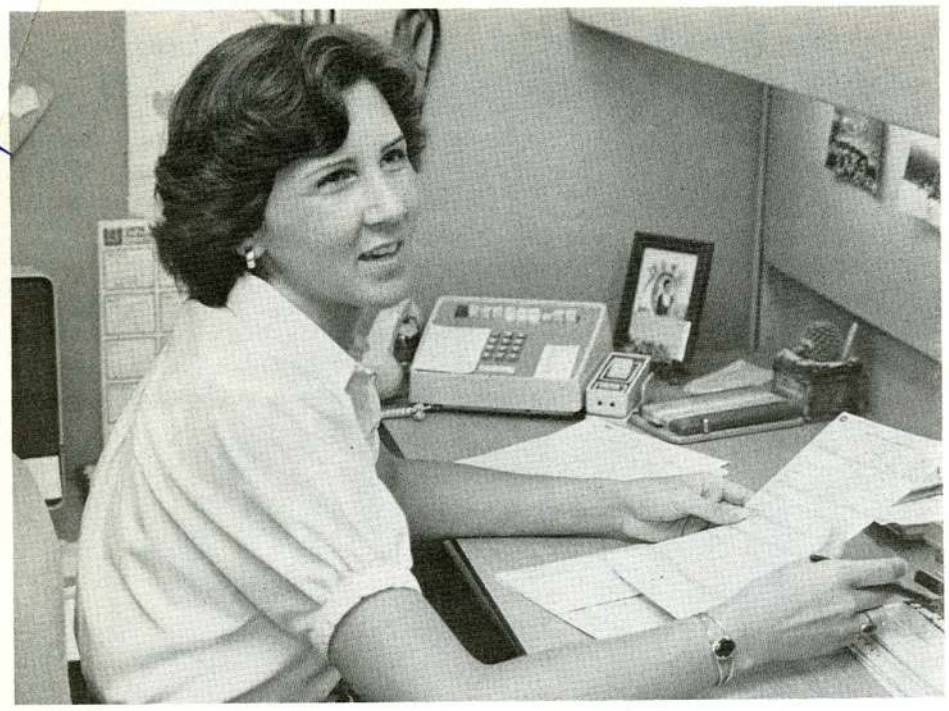
THALLIUM HEART SCAN

The 10 best-selling stable isotopes in FY-1980

Element-isotope	Probable use
Thallium-203	Medical (^{201}Tl)
Zinc-68	Medical (^{67}Ga)
Tellurium-124	Medical (^{123}I)
Strontium-84	Medical (^{85}Sr)
Calcium-48	Research — nuclear physics
Tin-112	Medical (^{113m}In)
Iron-57	Research — Mossbauer studies
Zinc-70	Research — solid state
Lead-208	Research — nuclear physics
Iron-58	Medical (^{59}Fe)

4203-81

Varied uses of payoff



Ginger M. O'Kain
ORNL Finance & Materials

(Continued from page 1)

Ginger M. O'Kain, ORNL Finance and Materials Division, recently purchased a house in Oak Ridge and is planning to use a large portion of her savings to renovate it. "It's one of the old 'B' houses, and it looks as though it's going to need quite a bit of work," she said. "I just moved into the house in February, so I'm still not sure of all the things it needs, but I'll put some of the money into basics, like insulation. I also hope to save some of it for next year's vacation," O'Kain added.

* * * * *

Paula F. Wright of ORNL Central Management said she plans to use her savings to make the final payment of her car. "It will be nice to actually own my car for the first time," she said. Wright also mentioned another use for the money. "I plan to arrange some minor surgery for my cat. When I left home this morning, there were four kittens sleeping on my bed. That's never going to happen again," she declared.

* * * * *

From Paducah's Plant Engineering comes an interesting use for the savings payoff. **John Owen** stated, "What makes the thing unusual that I will be doing with some of my savings plan is the fact it has never happened before. On June 27 our only daughter was married. Of course, that was only a few days before the 'big payoff.' At this particular time, from the best information I can gather, there are several incoming bills I will be expected to take care of."

* * * * *

A variety of avenues is planned by **Ron Wilson**, Paducah's Compressor Shop. "My plans for spending the savings plan check include: the down-payment on a used van, cross-country skis and a new mountain tent. The remainder will be spent remodeling an apartment in an old building."

Doris McKamey, ORGDP Maintenance Division, plans to enlarge a bathroom so that a sunken bathtub and whirlpool can be installed. Her husband received pinched nerves and back injuries in a truck accident a few years ago, and she believes these features might bring him some relief.

* * * * *

Betty Benton, ORGDP's Quality Assurance Office, is going to spend her money at least three ways. "We recently bought an older home, and will have to make repairs and buy a new compressor for the air conditioning system. Since most of my husband's family live in Buffalo, N.Y., and have only seen pictures of our six-month-old daughter, Christina, we will probably visit them. And finally, I'm taking my mother and mother-in-law to dinner at the Half Shell House. They've never been there, and they both deserve a special treat."

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Like many other employees, **Jim Fowler Jr.**, an instrument mechanic in ORGDP Maintenance, will "spend about half on travel, vacation and fun, and save the other half for a rainy day."

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Deserting the hot weather in Roane County, **Eddie Malenovsky**, Y-12 Assembly, and his family have already left for a Caribbean cruise.

Corporate world...

UNION CARBIDE CORPORATION and Baker Diagnostics have announced the signing of an agreement-in-principle for the worldwide sale of Union Carbide's CentrifiChem product line of blood analyzer equipment and reagents. Baker Diagnostics is a well-known manufacturer and distributor of clinical laboratory diagnostic products and instruments systems.

Question Box

Why not hike medical benefits?

QUESTION: Many group contracts with Blue Cross now have major medical lifetime benefits totaling $200,000. Why does Union Carbide's contract still remain at $75,000?

ANSWER: The goal of our medical insurance plans is to provide the broadest protection for the largest number of people. Very few persons have total claims approaching $75,000. If ever it appears that the problem is widespread enough to justify the premium increase which would be required of all employees, the limit will be raised. This has been done in the past: from $10,000 to $20,000 to $50,000, and to the present $75,000.

QUESTION: I work under a medical restriction not to lift more than 25 pounds, yet all the tasks I am assigned require lifting from 60 to 80 pounds. What can I do?

ANSWER: It is the Company's policy that work assignments should be in compliance with the limitations specified by medical restrictions. If you have not already discussed with your supervisor the work assignments that require lifting in excess of 25 pounds, you should do so. In case you have had such discussions and work assignments persist that require your lifting in excess of 25 pounds, then you should report this to your installation medical director.

Save Energy/Share the Ride

ORNL

JOIN CAR POOL from Ridgedale area, Knoxville, to East Portal, 8-4:30. Sue Gull, plant phone 6-2116.

JOIN or FORM CAR POOL from Carollwood subdivision, near Snyder and Lovell Roads, to South Portal, 8-4:30. Ward Jewell, plant phone 6-7660; home phone Knoxville 966-0183.

CAR POOL MEMBER from Inskip area, north Knoxville, to East, West or Melton Valley Portals, 8-4:30. Joe Richter, plant phone 4-7071; home phone Knoxville 687-3157.

CAR POOL RIDERS NEEDED from Sutherland Avenue area (Knoxville), to main portals, 8-4:30. Steven Wyatt, plant phone 4-4165; home phone 584-4839.

TWO CAR POOL RIDERS NEEDED from Spring City to East Portal, 8-4:30. Plant phone 6-7507; home phone 365-4231.

JOIN CAR POOL from Lenoir City (Martel Road area) to any portal, 7:45-4:15. Alan Krichinsky, plant phone 4-6931.

Y-12

RIDE from vicinity of I-640, Millertown Pike, to North Portal, straight day. Shirley Taylor, plant phone 4-0532; home phone 546-1101.

RIDERS WANTED from Kingston to West or Central Portals, 8-4:30. Fred Preston, plant phone 4-4062; home phone Kingston 376-3520.

ORGDP

CAR POOL MEMBERS needed from Fountain City, Inskip, Norwood or Clinton Highway areas. Day shift; all portals considered. Call Jim McManus, plant phone 6-2466; home phone 687-8460.

VAN POOL RIDERS wanted from east end of Oak Ridge to Portals 1, 2 and 4. Either shift 7:45-4:15 or 8-4:30. Phone Gwen McLaughlin, 4-8109.

CAR POOL MEMBER needed from Walker Springs/I-40, day shift, 7:45-4:15. All portals considered. Call 6-1894, 6-0506 or 690-6856.

UNION CARBIDE

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NUCLEAR DIVISION
P.O. BOX Y, OAK RIDGE, TENNESSEE 37830

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